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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,500	06/28/2001	Toru Hosoi	PNDF-01095	3231

21254 7590 02/18/2003

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EXAMINER

SUCHECKI, KRYSTYNA

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 02/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/892,500

Applicant(s)

HOSOI, TORU

Examiner

Krystyna Suchecki

Art Unit

2882

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***Period for Reply****\* A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**1) Responsive to communication(s) filed on 25 October 2002.2a) This action is **FINAL**. 2b) This action is non-final.3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.**Disposition of Claims**4) Claim(s) 1 and 4 is/are pending in the application.4a) Of the above claim(s) 2,3 and 5-9 is/are withdrawn from consideration.5) Claim(s) \_\_\_\_\_ is/are allowed.6) Claim(s) 1 and 4 is/are rejected.7) Claim(s) \_\_\_\_\_ is/are objected to.8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.**Application Papers**9) The specification is objected to by the Examiner.10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. §§ 119 and 120**13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).a) All b) Some \* c) None of:1. Certified copies of the priority documents have been received.2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).a) The translation of the foreign language provisional application has been received.15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.**Attachment(s)**1) Notice of References Cited (PTO-892)4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.2) Notice of Draftsperson's Patent Drawing Review (PTO-948)5) Notice of Informal Patent Application (PTO-152)3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,3.6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 2-3 and 5-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6 to examine claims 1 and 4.

### *Claim Objections*

2. Claim 1 is objected to because of the following informalities: the third limitation of claim 1 should read as follows: "A channel waveguide array disposed on said substrate and constituted such that each length of the waveguides in the array is sequentially longer with a predetermined difference in the lengths of the waveguides;". Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Dragone (US 5,002,350).

5. Regarding Claim 1, Figures 1 and 2 of Dragone teach an arrayed waveguide grating, comprising:

- a. A substrate (Column 7, lines 23-25);
- b. A first channel waveguide disposed on the substrate (Figure 1, item 106);

- c. A channel waveguide array (Figure 1, items 101-105) disposed on said substrate and constituted such that each length of the waveguides in the array is sequentially longer with a predetermined difference in the lengths of the waveguides (Column 2, lines 48-50);
- d. A first slab waveguide (Column 2, lines 13-21) disposed on said substrate and connecting said first channel waveguide with said channel waveguide array;
- e. A second slab waveguide (Column 2, lines 13-21) disposed on said substrate and connecting an end of said channel waveguide array on the side wherein said first slab waveguide has not been connected thereto with an end thereof; and
- f. A second channel waveguide (Figure 1, item 109) disposed on said substrate and connected to the other end of said second slab waveguide wherein a waveguide part in the connected area has a parabolic configuration (Column 4, line 9- Column 7, line 3).

6. Regarding Claim 4, Dragone teaches the parabolic configuration as individually adjusted in response to respective wavelengths of multiplexed optical signals input to a first channel waveguide (Column 4, line 9- Column 7, line 3).

*Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patents to Okawa (US 6,069,990) and Okamoto (JP 09-297228) are of especial interest for further teachings on parabolic connections to slab waveguides in array waveguide grating systems. Article by Okamoto is of interest for further teachings on waveguide connection and design.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (703) 305-5424.

The examiner can normally be reached on M-F 8-6, with alternating Fridays off.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

ks  
February 6, 2003

*K*  
SUPERVISOR OF  
TECHNOLOGY  
FEB 6 2003